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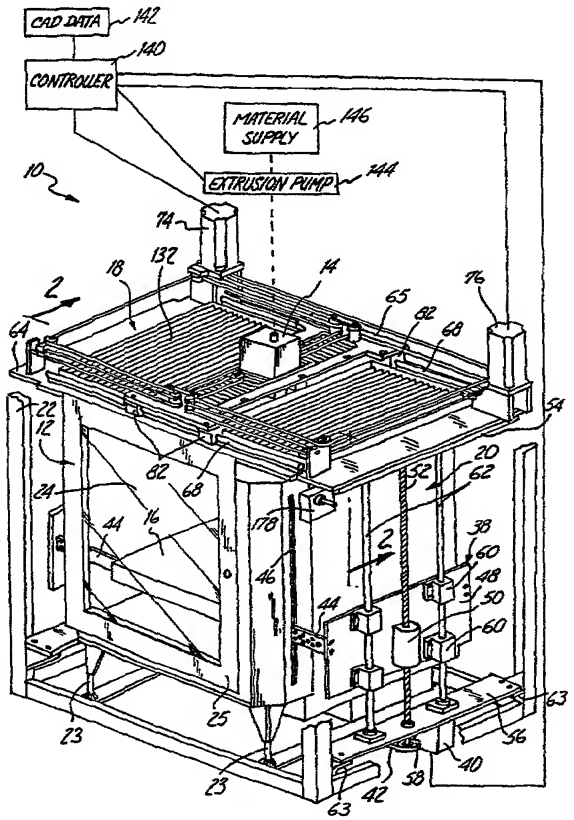
(54) Title: HIGH TEMPERATURE MODELING APPARATUS



(57) Abstract: Disclosed is a three-dimensional modeling apparatus (10) that builds up three-dimensional objects in a heated build chamber (24) by dispensing modeling material from a dispensing head (14) onto a base (16) in a pattern determined by control signals from a controller (140). The motion control components (18, 20) of the apparatus (10) are external to and thermally isolated from the build chamber (24). A deformable thermal insulator (132) forms a ceiling of the build chamber, allowing motion control of the dispensing head (14) in an x, y plane by an x-y gantry (18) located outside of and insulated from the build chamber (24). In the preferred embodiment, a material receiving inlet (63) of the dispensing head (14) is external to the build chamber (24) as well, while a material dispensing outlet (66) of the dispensing head is inside thechamber. Thermal isolation of the motion control components from the build chamber allows the chamber to be maintained at a high temperature.

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